FUNDAMENTAL FACTORS IN THE ETIOLOGY AND TREATMENT OF CHRONIC INTESTINAL DISEASES *

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This paper is a discussion of those very prevalent deranged gastro-intestinal conditions which are characterized by either hyper or hypo-peristalsis and which are functional in nature.

In the hyper-peristaltic type is found the hypersensitive and irritated intestine and colon with spasms, diarrhea, spastic colitis and mucous colitis. This results in undernourishment and varying degrees of intestinal distress. In the hypo-peristaltic type is found the slow sluggish intestine and colon with resultant stasis, fermentation or putrefaction, constipation and distension.

Patients of these classes appear before us every day and they have been very aptly dubbed "The Chronic Intestinal Invalids."

The most common causative factors in both the hypo and hyper-peristaltic types are the widespread use of intestinal irritants, such as laxatives, cathartics, purgatives, and such irritating enemas as "glycerine," "soap-suds," "one-two-three and two-four-six," "turpentine," and others so much used in post-operative cases, as well as the large water enemas or flushings constituting the so-called "Internal bath."

The use of these harmful irritants is seemingly indicated at times, due to the markedly unbalanced diet upon which the average individual exists. Ample literature in medical journals, textbooks, public press and commercial advertisements make it easy for the physician to prescribe cathartics or enemas for the relief of intestinal conditions without carefully considering etiology and without carefully considering the end result of advising the patient to start, or to continue if already started, the cathartic or enema habit.

It is common to note in the histories of patients with intestinal disease and distress of various kinds, that the trouble dates from the time they were operated on for this or that condition. Upon careful questioning, it is brought out that although they had never used cathartics or enemas before the operation, such was instituted at the hospital during their convalescence and was continued after their discharge. Some surgeons are prone to leave the handling of the intestinal function to the care of the nurse in charge. The peddling of pills and routine giving of irritating enemas take place in some of the best hospitals. The patient leaves the hospital on such a regime and, of course, follows it out at home.

Treatment of these diseases should be based upon a working understanding of the physiology of the gastro-intestinal tract and should consist in efforts to restore the normal state to the definitely abnormal intestine. Material enters the small intestine in a liquid to a semi-liquid state. It is pushed through the small intestine by the longitudinal peristaltic movements. As it progresses it is divided, and thoroughly mixed with the intestinal juices and brought into intimate contact with the absorptive surfaces by the segmenting and circular contractions of the muscle walls. Most of the nourishment is absorbed from the small intestine. The material that enters the large intestine is composed chiefly of water, indigestible debris, bacteria, salts, a few starches and organic acids. It is brought into intimate contact with the absorptive surfaces of the colon, in a similar manner as in the small intestine, except that anti-peristalsis in the cæcum and ascending colon inhibits the movement of the material. Due to the absorption of water, salts and occasional starches, as the material progresses through the colon it becomes less fluid and in the sigmoid it is quite pasty. The material remains in the rectum until enough of the remaining fluid is absorbed to give the stool a consistency hard enough to stimulate the rectal nerves for a desire for defecation.

The intestinal movements are produced mechanically by the bulk of material and chemically by reflex action through the sympathetic, motor and vagatonic nervous system.

Within certain limits there is a normal time for the passage of material through the gastro-intestinal tract. The radiologists, using a barium suspension, consider there is no retention in the stomach if the meal is out in six hours, in the small intestine in from twelve to sixteen hours, and in the large in from thirty-six to forty-eight hours after ingestion. Naturally a foreign, rather non-absorbable, material, such as the barium solution is not the ideal means of testing the gastro-intestinal function. Food should be used. This is easily done by feeding a charcoal tablet with the meal and timing the appearance of the black stool. This has been repeatedly done in normal individuals and the stool appears in from thirty-six to forty-eight hours.

This normal mechanism is maintained by a properly balanced diet. A properly balanced diet is one that nourishes, as evidenced by the maintaining of the normal body weight, and one that contains enough of the irritating material to produce a normal stool every day, without intestinal distress and without artificial aid.

This normal metchanism is of the utmost importance and should be constantly in mind when attempting to treat these intestinal conditions. One of the most important factors is the time it should take for the material to pass through the gastro-intestinal tract. Food should not be rushed through the stomach before it has entered into solution with the gastric juices. The material should not rush through the small intestine before sufficient time has elapsed for the nourishment to be absorbed and if it is rushed through the large colon, the body will be depleted, more or less, of necessary fluid, a common finding in diarrheas of even short duration. Any factors that disturb this mechanism, the most common of which are artificial stimulants, cathartics and enemas, will cause these absorption times to be disarranged and if kept up day after day, will result in chronic intestinal disease.

In the treatment of the hyper-peristaltic type

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cathartics and large enemas should never be used, except in the very aged and then only after unsuccessful attempts without artificial aid.

A preliminary rest of the small intestine and colon should be instituted. This is obtained by physical, mental and metabolic rest of the patient combined with proper soothing medication. Daily evacuations of the bowels should be assured in order to establish the normal habit and prevent fecal impaction in the rectum.

Mental rest is important because many of these patients are intensely neurotic. It is best obtained by taking the patient into your confidence, explaining to him fully and simply the normal mechanism of the intestine, pointing out to him his errors in his own management and explaining just how you expect to get the intestinal function back to normal. It will take a good deal of assurance to obtain and to retain the patient's confidence in your ability, as the line of treatment is so opposite to the general point of view. It is difficult at times to make the patient appreciate that he will have bowel movements without cathartics, especially when he has used cathartics and enemas for years. However, if the patient is intelligent he will usually give you a fair trial and when he begins to have stools without distress and artificial aid, his gratefulness is very pleasing. He must have a good working knowledge of the form of treatment so that he can intelligently continue it after his discharge from the hospital.

Physical and mental rest, obtained by keeping the patient in bed for a week or ten days, is necessary because exercise stimulates the intestinal peristalsis.

An easily assimilable diet and one non-irritating to the intestines containing a minimum amount of indigestible debris and irritating material, is essential. Heat should be applied to the abdomen during the major portion of the day by the judicious use of an electric pad. This soothes the hypersensitive nerve endings and the inflamed mucous membranes of the intestine and quiets the intestinal peristalsis. Soothing medication in the form of bismuth and chalk powders is useful.

Daily evacuations are assured by enemas of two or three ounces of warm olive or cotton-seed oil, given at night and retained until morning if possible, without distress. This lubricates the rectum, softens fecal material and does not enter the colon itself. These enemas are soothing, they form the morning habit or cause it to continue if already formed, and they prevent fecal impaction. These enemas are stopped as soon as the diet is complete enough to cause stools to appear normally. Normal stools should be the rule before patients are discharged from the hospital.

During the treatment everything possible is done to rest the intestine and colon, so that they will have every opportunity to regain their normal tone and reaction to stimuli. During this period patients will have stools with the aid of oil enemas. These stools come from the material ingested before treatment is instituted and after that from the intestinal secretions, bacteria and bismuth and chalk powders. The bismuth and chalk powders usually contain 10 grains each of bismuth subnitrate, calcium phosphate, and calcium carbonate and should be dissolved in water and taken five times a day, after feedings. The powders are soothing to the inflamed mucous membranes, form a coating over the sensitive nerve endings, rendering them less susceptible to stimuli and provide for a non-irritating bulk. The oil retention will prevent fecal impaction in the rectum.

After three or four days of non-irritating regime, the diet is gradually increased, from the non-irritating to the irritating food, adding food of the least irritating nature first.

The diet in the beginning consists of cereal gruels made of farina, barley, oatmeal flour and rice, strained, made thin with water and served hot five times a day. On the second day boiled milk is usually substituted for two or three of the gruels; on the third day soft cooked eggs with toasted crackers may be added; then gradually day by day, add food such as cereals, with cream and sugar as desired; tender bits of well-cooked meat and game, custards, toast, cocoa, tea or weak coffee. Up to this stage the food is practically all absorbed as nourishment and is non-irritating in nature. This phase of the treatment is usually completed in a week or ten days. Then if distress is absent and stools are formed, the more irritating foods, such as rice, oatmeal, baked, mashed or boiled potatoes, vegetables and finally cooked fruits are added. The indications for adding more of the irritating and bulky food are absence of intestinal distress and constipated stools. Additions to diet are stopped or even lowered somewhat whenever distress or loose stools appear. In this manner each patient is tested as to tolerance for the irritating foods and when discharged should be on a well-balanced diet which contains enough of the bulky and irritating material to produce a daily normal stool without distress and without artificial aid.

Each patient requires individual consideration and minor changes are made in the treatment as thought proper. In cases of achylia such food as meat and eggs are omitted, hydro-chloric acid is given and the intestinal powders given at such a time that they will not destroy the beneficial action of the acid. In some case of spastic colitis, the spasm is at times more easily relaxed by small doses of tincture of belladona three times daily for periods of ten days. Occasionally it is necessary to give tannic acid or opium in severe cases of diarrhea.

In some mild cases it is not necessary to institute bed rest in the initial stage of treatment. By giving the foregoing outlined diet and the intestinal powders and by a judicious use of the oil retention enemas good results are obtained with the patient up and even working at his usual occupation. However, in the majority of cases, the results are better and more quickly obtained if the initial period of hospital or home care is instituted.

In cases of the so-called "atony of the intestine," the hypo-peristaltic type, the above regime is as efficacious as in the cases of hyper-peristalsis. It is interesting to note that a careful study of many cases of the atonic or hypo-peristaltic intestine shows they have unquestionably passed through the stages of hyper-peristalsis or hypersensitive intestines and colons.

Where we have reason to suspect that part of the intestinal condition is due to an inability of the patient to properly digest carbohydrates, better results are obtained by limiting but not entirely excluding the carbohydrate intake.

Too much attention should not be placed on the slight amounts of excess mucus, fat, starch and undigested meat fibers that are so often found in the stools. It is to be expected that in a hyperperistaltic intestine and colon where the nerve endings are in a hypersensitive condition that an excess of mucus will be poured out, and when the material goes too rapidly through the intestine excesses of fat, starch and undigested meat fibers will be present. In constipation where the stools are hard there is always an excess of mucus poured out in the attempt to coat these masses and to enable them to be expelled more easily. The real cause, the disordered intestinal mechanism, should be treated, not the symptoms. Allow the normal mechanism of the intestines and colon to return and these excesses will disappear from the stools. In a similar way the bacterial flora will be improved.

Ultimate recovery is assured in these patients. They leave the hospital well nourished, free from intestinal distress and having normal stools daily without artificial aid. They are educated in the normal way in which to live and are taught to regulate the amount of bulk and irritating material in the diet, using the consistency of the stools and the absence of intestinal distress as indications for varying the amount of bulky and irritating items of diet. Patients are seldom in the hospital over three weeks and often only ten days to two weeks.

In conclusion I would place emphasis on the following:

There is a small field, if any, for the therapeutic use of artificial stimulants in the treatment of chronic intestinal disease.

The abnormal intestinal function should be recognized and aided to again become normal.

The best method is to combine physical, mental and metabolic rest with soothing treatment, allowing the intestine to regain its normal tone and reaction.

Surgeons should be more cautious in the use of artificial intestinal stimulants in the post-operative care of patients. They should insist that the normal intestinal function be re-established if it has been disturbed before allowing the patient to leave the hospital.

The general public should be better instructed as to the management of their intestinal conditions.

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GROUP MEDICINE—A DISCUSSION OF ITS VALUE TO THE PROFESSION AND THE PUBLIC

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In the last twenty years through the advancement of knowledge by the professions and the appreciation of this by the public, it has become necessary to specialize to get the highest efficiency. In law it would be hard to find a man willing to attempt to carry a client through a criminal action, draw up articles of incorporation for a big company, pass on a bond issue and draw up a will. If you did find a man willing, you would not trust him, for you would know that he could not possibly possess the information and technique to cope successfully with all these problems. Engineering long ago developed its specialists in mining, electricity, hydraulics, construction, chemistry, etc. We take our problem to the appropriate place without question, knowing that general engineering is an impossibility. The other learned professions have kept pace of a necessity.

Medicine has had specialists in certain branches for a number of years, but only in the last few years has the human body been divided up into small sections and allocated to the different members of our profession. This is a necessity, for the capacity of one man's brain and time are unfortunately limited. With specializing in medicine have come grave problems which must in some way be solved. The correlation of the organs in the body does not allow of independent action by the different specialists without due regard to pathological conditions outside their own fields of action. The specialist cannot be a specialist and a general practitioner, so there can be no way for him to judge of conditions outside his own field except from the reports of other specialists. Unless there is organization among specialists, efficiency and time are lost to the patient and to the profession.

Keeping in mind these facts we must realize that group medicine of one type or another is a necessity. This is the reason that this subject has been under constant discussion wherever medical men have met.

Leaders in medicine, Drs. William Mayo, Billings, Barker, and others, have presented the different angles of the subject with such wisdom that a great deal that has to be said here must of necessity sound familiar and hackneyed.

Different types of groups are being worked out with more or less success. We will briefly discuss the principal types and their advantages and disadvantages.

1. Groups made up of physicians and surgeons with all the allied specialties, having common interests medically and financially.
   - (a) Built around an outstanding man.
   - (b) Built up by the association of a number of good men in a community who have succeeded in their own lines.
   - (c) Built around a college or hospital.